INDEX TO AUTHORS

A

ALDER, DONNA, and GOROVSKY, MARTIN A. Electrophoretic analysis of liver and testis histones of the frog *Rana pipiens*, 389

ALLEN, RICHARD D. Evidence for firm linkages between microtubules and membrane-bounded vesicles, 497

ANDERSON, W. FRENCH. See BARKER, ANDERSON, and NIENHUIS, 515

ANDERSON, WINSTON A., KANG, YUAN-HSU, and DESOMBRE, EUGENE R. Endogenous peroxidase: specific marker enzyme for tissues displaying growth dependency on estrogen, 668

—, —, and —. Estrogen and antagonist-induced changes in endometrial topography of immature and cycling rats, 692

—. See KANG, ANDERSON, and DESOMBRE, 682

B

BARCELLONA, WAYNE J. See MEISTRICH, REID, and BARCELLONA, 211

BARKER, JANE E., ANDERSON, W. FRENCH, and NIENHUIS, ARTHUR W. Hemoglobin switching in sheep and goats. V. Effect of erythropoietin concentration on in vitro erythroid colony growth and globin synthesis, 515

BECK, FELIX. See WILLIAMS, KIDSTON, BECK, and LLOYD, 113, 123

BERG, RICHARD A. See KISHIDA, OLSEN, BERG, and PROCKOP, 331

—. See OLSEN, BERG, KISHIDA, and PROCKOP, 340

BERGSTRAND, ANDERS. See GLAUMANN, BERGSTRAND, and ERICSSON, 356

BERLINER, JUDITH A. Formation of enlarged mitochondria in a liver cell line in response to a synthetic glucocorticoid, 711

BIGHOUSE, K. J. See MASON and BIGHOUSE, 235

BIGNON, JEAN, CHAHINIAN, PHILIPPE, FELDMANN, GÉRARD, and SAPIN, CATHERINE. Ultrastructural immunoperoxidase demonstration of autologous albumin in the alveolar capillary membrane and in the alveolar lining material in normal rats, 503

BONNER, WILLIAM M. Protein migration into nuclei. I. Frog oocyte nuclei in vivo accumulate microinjected histones, allow entry to small proteins, and exclude large proteins, 421

—. II. Frog oocyte nuclei accumulate a class of microinjected oocyte nuclear proteins and exclude a class of microinjected oocyte cytoplasmic proteins, 431

BRIGGS, RICHARD T., KARNOVSKY, MANFRED L., and KARNOVSKY, MORRIS J. Cytochemical demonstration of hydrogen peroxide in polymorphonuclear leukocyte phagosomes, 254

BUNGE, RICHARD P. See YU and BUNGE, 1

C

CAMPBELL, GRAHAM LEM., GOLDSTEIN, LESTER T., and KNOWLES, BARBARA B. The use of flow microfluorimetry in the analysis of the phenotype expression of mouse histocompatibility antigens, 719

CARLSON, R. DOUGLAS. See OLINS, CARLSON, and OLINS, 528

CARTER, D. P. See NEMANIC, CARTER, PITELKA, and WOFSY, 311

CASTLE, J. DAVID, JAMIESON, JAMES D., and PALADE, GEORGE E. Secretion granules of the rabbit parotid gland. Isolation, subfractionation, and characterization of the membrane and content subfractions, 182

CHAHINIAN, PHILIPPE. See BIGNON, CHAHINIAN, FELDMANN, and SAPIN, 503

CHUA, NAM-HAI. See IWANIJ, CHUA, and SIEKEVITZ, 572

COHN, ZANVIL A. See HUBBARD and COHN, 438, 461

COLEMAN, JAMES R. See WARNER and COLEMAN, 54

CORMIER, MILTON J. See SPURLOCK and CORMIER, 15

D

DEITCH, ARLINE D. See GODMAN, MIRANDA, DEITCH, and TANENBAUM, 644

DESOMBRE, EUGENE R. See ANDERSON, KANG, and DESOMBRE, 668, 692

—. See KANG, ANDERSON, and DESOMBRE, 682

DIPPELL, RUTH V. See TAMM, SONNEBORN, and DIPPELL, 98

DOCKRAY, G. J., and HOPKINS, COLIN R. Caerulein secretion by dermal glands in *Xenopus laevis*, 724

DREYER, WILLIAM J. See MOLDAY, DREYER, REMBAUM, and YEN, 75

DUBIN, MARK W. See MURRAY and DUBIN, 705

E

ERBE, J. See PLAGEMANN, RICHEY, ZYLKA, and ERBE, 29

ERICSSON, JAN L. E. See GLAUMANN, BERGSTRAND, and ERICSSON, 356

ERULKAR, S. E. See GAMBETTI, ERULKAR, SOMLYO, and GONATAS, 322

F

FELDMANN, GÉRARD. See BIGNON, CHAHINIAN, FELDMANN, and SAPIN, 503
FRANZINI-ARMSTRONG, CLARA, LANDMESSER, LYNN, and PILAR, GUILLERMO. The size and shape of transverse tubule openings in frog twitch muscle fibers, 493
FUSELER, JOHN W. Mitosis in *Tilia americana* endosperm, 159

G

GAMBETTI, P., ERULKAR, S. E., SOMLYO, A. P., and GONATAS, N. K. Calcium-containing structures in vertebrate glial cells. Ultrastructural and microprobe analysis, 322
GIANNATTASIO, G., ZANINI, A., and MELDOLESI, J. Molecular organization of rat prolactin granules. I. In vitro stability of intact and "membraneless" granules, 246
GLAUMANN, HANS, BERGSTRAND, ANDERS, and ERICSSON, JAN L. E. Studies on the synthesis and intracellular transport of lipoprotein particles in rat liver, 356
GODMAN, GABRIEL C., MIRANDA, ARMAND F., DEITCH, ARLINE D., and TANENBAUM, STUART W. Action of cytochalasin D on cells of established lines. III. Zeiosis and movements at the cell surface, 644
GOLDSTEIN, LESTER T. See CAMPBELL, GOLDSTEIN, and KNOWLES, 719
GONATAS, N. K. See GAMBETTI, ERULKAR, SOMLYO, and GONATAS, 322
GONZALEZ-ROBLES, ARTURO. See PINTO DA SILVA, MARTÍNEZ-PALOMO, and GONZALEZ-ROBLES, 538
GOROVSKY, MARTIN A. See ALDER and GOROVSKY, 389
GREENBERG, JAY R. Messenger RNA metabolism of animal cells. Possible involvement of untranslated sequences and mRNA-associated proteins, 269
GRUENSTEIN, ERIC, RICH, ALEXANDER, and WEIHING, ROBERT R. Actin associated with membranes from 3T3 mouse fibroblast and HeLa cells, 223

H

HALE, ARTHUR H., WINKELHAKE, JEFFREY L., and WEBER, MICHAEL J. Cell surface changes and Rous sarcoma virus gene expression in synchronized cells, 398
HAND, ROGER. Regulation of DNA replication on subchromosomal units of mammalian cells, 89
HAVELL, EDWARD A., and VILČEK, JAN. Inhibition of interferon secretion by vinblastine, 716
HILL, JAMES M. Ribosomal RNA metabolism during renal hypertrophy. Evidence of decreased degradation of newly synthesized ribosomal RNA, 260
HOPKINS, COLIN R. See DOCKRAY and HOPKINS, 724
HSU, T. C. See PARDUE and HSU, 251
HUBBARD, ANN L., and COHN, ZANVIL A. Externally disposed plasma membrane proteins. I. Enzymatic iodination of mouse L cells, 438
HUBBARD, ANN L., AND COHN, ZANIRL A. II. Metabolic fate of iodinated polypeptides of mouse L cells, 461

I

IWANIJ, VICTORIA, CHUA, NAM-HAI, and SIEKEVITZ, PHILIP. Synthesis and turnover of ribulose biphosphate carboxylase and of its subunits during the cell cycle of *Chlamydomonas reinhardtii*, 572

J

JAFFE, LIONEL F. See NUCCITELLI and JAFFE, 636
JAMIESON, JAMES D. See CASTLE, JAMIESON, and PALADE, 182

K

KANG, YUAN-HSU, ANDERSON, WINSTON A., and DESOMBRE, EUGENE R. Modulation of uterine morphology and growth by estradiol-17β and an estrogen antagonist, 682
—. See ANDERSON, KANG, and DESOMBRE, 688, 692
KARNOVSKY, MANFRED L. See BRIGGS, KARNOVSKY, and KARNOVSKY, 254
KARNOVSKY, MORRIS J. See BRIGGS, KARNOVSKY, and KARNOVSKY, 254
KIDSTON, ELIZABETH M. See WILLIAMS, KIDSTON, BECK, and LLOYD, 113, 123
KISHIDA, YASUO, OLSEN, BJØRN R., BERG, RICHARD A., and PROCKOP, DARWIN J. Two improved methods for preparing ferritin-protein conjugates for electron microscopy, 331
—. See OLSEN, BERG, KISHIDA, and PROCKOP, 340
KNOWLES, BARBARA B. See CAMPBELL, GOLDSTEIN, and KNOWLES, 719
KOMIYAMA, ATSUSHI, and SPICER, SAMUEL S. Microendocytosis in eosinophilic leukocytes, 622

L

LANDMESSER, LYNN. See FRANZINI-ARMSTRONG, LANDMESSER, and PILAR, 493
LLOYD, JOHN B. See WILLIAMS, KIDSTON, BECK, and LLOYD, 113, 123

M

MACKEARNIN, A. See WEISS, POSTE, MACKEARNIN, and WILLETT, 135
MACLACHLAN, GORDON A. See SHORE and MACLACHLAN, 557
MARTIN, GEORGE M. See NORWOOD, PENDERGRASS, and MARTIN, 551
MARTÍNEZ-PALOMO, ADOLFO. See PINTO DA SILVA, MARTÍNEZ-PALOMO, and GONZALEZ-ROBLES, 538
MASON, W. T., and BIGHOUSE, K. J. Correlation of rhodopsin biogenesis with ultrastructural morphogenesis in the chick retina, 235
MEISTRICH, MARVIN L., REID, BETTY O., and BARCELLONA, WAYNE J. Meiotic DNA synthesis during mouse spermatogenesis, 211
MELDOLESI, J. See GIANNATTASIO, ZANINI, and MELDOLESI, 246

MIRANDA, ARMAND F. See GODMAN, MIRANDA, DEITCH, and TANENBAUM, 644
MOLDAY, ROBERT S., DREYER, WILLIAM J., REMBAUM, ALAN, and YEN, S. P. S. New immunolatex spheres. Visual markers of antigens on lymphocytes for scanning electron microscopy, 75
MORAN, DENIS, and RICE, ROBERT W. An ultrastructural examination of the role of cell membrane surface coat material during neurulation, 172
MURRAY, ROBERT L., and DUBIN, MARK W. The occurrence of actinlike filaments in association with migrating pigment granules in frog retinal pigment epithelium, 705

N

NAGANO, TOSHIO, and SUZUKI, FUMIE. Microtubules with 15 subunits in cockroach epidermal cells, 242
NEMANIC, M. K., CARTER, D. P., PITELKA, D. R., and WOFSY, L. Hapten-sandwich labeling. II. Immunospecific attachment of cell surface markers suitable for scanning electron microscopy, 311
NIENHUIS, ARTHUR W. See BARKER, ANDERSON, and NIENHUIS, 515
NORWOOD, THOMAS H., PENDERGRASS, WILLIAM R., and MARTIN, GEORGE M. Reinitiation of DNA synthesis in senescent human fibroblasts upon fusion with cells of unlimited growth potential, 551
NUCCITELLI, RICHARD, and JAFFE, LIONEL F. The pulse current pattern generated by developing fucoid eggs, 636

O

OBARA, YOSHITAKA, WEINFELD, HERBERT, and SANDBERG, AVERY A. Detection by means of cell fusion of macromolecular synthesis involved in the reconstruction of the nuclear envelope in mitosis, 378
OLINS, ADA L., CARLSON, R. DOUGLAS, and OLINS, DONALD E. Visualization of chromatin substructure: ν bodies, 528
OLINS, DONALD E. See OLINS, CARLSON, and OLINS, 528
OLSEN, BJØRN R., BERG, RICHARD A., KISHIDA, YASUO, and PROCKOP, DARWIN J. Further characterization of embryonic tendon fibroblasts and the use of immunoferritin techniques to study collagen biosynthesis, 340
—. See KISHIDA, OLSEN, BERG, and PROCKOP, 331

P

PALADE, GEORGE E. See CASTLE, JAMIESON, and PALADE, 182
—. See SIMIONESCU, SIMIONESCU, and PALADE, 586
PARDUE, MARY LOU, and HSU, T. C. Locations of 18S and 28S ribosomal genes on the chromosomes of the Indian muntjac, 251
PENDERGRASS, WILLIAM R. See NORWOOD, PENDERGRASS, and MARTIN, 551
PFEIFER, U., and SCHELLER, H. A morphometric study of cellular autophagy including diurnal variations in kidney tubules of normal rats, 608
PILAR, GUILLERMO. See FRANZINI-ARMSTRONG, LANDMESSER, and PILAR, 493
PINTO DA SILVA, PEDRO, MARTÍNEZ-PALOMO, ADOLFO, and GONZALEZ-ROBLES, ARTURO. Membrane structure and surface coat of *Entamoeba histolytica*. Topochemistry and dynamics of the cell surface: cap formation and microexudate, 538
PITELKA, D. R. See NEMANIC, CARTER, PITELKA, and WOFSY, 311
PLAGEMANN, P. G. W., RICHEY, D. P., ZYLKA, J. M., and ERBE, J. Cell cycle and growth stage-dependent changes in the transport of nucleosides, hypoxanthine, choline, and deoxyglucose in cultured Novikoff rat hepatoma cells, 29
POSTE, G. See WEISS, POSTE, MACKEARNIN, and WILLETT, 135
PROCKOP, DARWIN J. See KISHIDA, OLSEN, BERG, and PROCKOP, 331
—. See OLSEN, BERG, KISHIDA, and PROCKOP, 340

R

RAMÓN, FIDEL. See ZAMPIGHI, VERGARA, and RAMÓN, 734
REID, BETTY O. See MEISTRICH, REID, and BARCELLONA, 211
REMBAUM ALAN. See MOLDAY, DREYER, REMBAUM, and YEN, 75
RICE, ROBERT W. See MORAN and RICE, 172
RICH, ALEXANDER. See GRUENSTEIN, RICH, and WEIHING, 223
RICHEY, D. P. See PLAGEMANN, RICHEY, ZYLKA, and ERBE, 29
ROOS, U.-P. Mitosis in the cellular slime mold *Polysphondylium violaceum*, 480
ROSENFELD, ARLINE C. See WEISENBERG and ROSENFELD, 146
RUBIN, ROBERT W., and WEISS, GARY D. Direct biochemical measurements of microtubule assembly and disassembly in Chinese hamster ovary cells. The effect of intercellular contact, cold, D_2O, and $N^6,O^{2'}$-dibutyryl cyclic adenosine monophosphate, 42

S

SANDBERG, AVERY A. See OBARA, WEINFIELD, and SANDBERG, 378
SAPIN, CATHERINE. See BIGNON, CHAHINIAN, FELDMANN, and SAPIN, 503
SCHELLER, H. See PFEIFER and SCHELLER, 608
SHORE, GORDON, and MACLACHLAN, GORDON A. The site of cellulose synthesis. Hormone treatment alters the intracellular location of alkali-insoluble β-1,4-glucan (cellulose) synthetase activities, 557
SIEKEVITZ, PHILIP. See IWANIJ, CHUA, and SIEKEVITZ, 572
SIMIONESCU, MAIA. See SIMIONESCU, SIMIONESCU, and PALADE, 586
SIMIONESCU, NICOLAE, SIMIONESCU, MAIA, and PALADE, GEORGE E. Permeability of muscle capillaries to small heme-peptides. Evidence for the existence of patent transendothelial channels, 586

SOMLYO, A. P. See GAMBETTI, ERULKAR, SOMLYO, and GONATAS, 322
SONNEBORN, T. M. See TAMM, SONNEBORN, and DIPPELL, 98
SPICER, SAMUEL S. See KOMIYAMA and SPICER, 622
SPURLOCK, BEN O., and CORMIER, MILTON J. A fine structure study of the anthocodium in *Renilla mülleri*. Evidence for the existence of a bioluminescent organelle, the luminelle, 15
STEPHENS, R. E. The basal apparatus. Mass isolation from the molluscan ciliated gill epithelium and a preliminary characterization of striated rootlets, 408
SUZUKI, FUMIE. See NAGANO and SUZUKI, 242

T

TAMM, SIDNEY L., SONNEBORN, T. M., and DIPPELL, RUTH V. The role of cortical orientation in the control of the direction of ciliary beat in *Paramecium*, 98
TANENBAUM, STUART W. See GODMAN, MIRANDA, DEITCH, and TANENBAUM, 644
TILNEY, LEWIS G. Actin filaments in the acrosomal reaction of *Limulus* sperm. Motion generated by alterations in the packing of the filaments, 289

V

VERGARA, JULIO. See ZAMPIGHI, VERGARA, and RAMÓN, 734
VILČEK, JAN. See HAVELL and VILČEK, 716

W

WARNER, RONALD R., and COLEMAN, JAMES R. Electron probe analysis of calcium transport by small intestine, 54
WEBER, MICHAEL J. See HALE, WINKELHAKE, and WEBER, 398
WEIHING, ROBERT R. See GRUENSTEIN, RICH, and WEIHING, 223
WEINFELD, HERBERT. See OBARA, WEINFELD, and SANDBERG, 378
WEISENBERG, RICHARD C., and ROSENFELD, ARLINE C. In vitro polymerization of microtubules into asters and spindles in homogenates of surf clam eggs, 146
WEISS, GARY D. See RUBIN and WEISS, 42
WEISS, L., POSTE, G., MACKEARNIN, A., and WILLETT, K. Growth of mammalian cells on substrates coated with cellular microexudates. I. Effect on cell growth at low population densities, 135
WILLETT, K. See WEISS, POSTE, MACKEARNIN, and WILLETT, 135
WILLIAMS, KENNETH E., KIDSTON, ELIZABETH M., BECK, FELIX, and LLOYD, JOHN B. Quantitative studies of pinocytosis. I. Kinetics of uptake of [^{125}I]polyvinylpyrrolidone by rat yolk sac cultured in vitro, 113
—, —, —, and —. II. Kinetics of protein uptake and digestion by rat yolk sac cultured in vitro, 123
WINKELHAKE, JEFFREY L. See HALE, WINKELHAKE, and WEBER, 398
WOFSY, L. See NEMANIC, CARTER, PITELKA, and WOFSY, 311

Y

YEN, S. P. S. See MOLDAY, DREYER, REMBAUM, and YEN, 75
YU, RILEY C.-P., and BUNGE, RICHARD P. Damage and repair of the peripheral myelin sheath and node of Ranvier after treatment with trypsin, 1

Z

ZAMPIGHI, GUIDO, VERGARA, JULIO, and RAMÓN, FIDEL. On the connection between the transverse tubules and the plasma membrane in frog semitendinosus skeletal muscle. Are caveolae the mouths of the transverse tubule system? 734
ZANINI, A. See GIANNATTASIO, ZANINI, and MELDOLESI, 246
ZYLKA, J. M. See PLAGEMANN, RICHEY, ZYLKA, and ERBE, 29

INDEX TO SUBJECTS

A

Acrosomal reaction, *Limulus* sperm, role of actin filaments in generation of motion, biochemical and light and EM study, 289

Actin filaments, role in acrosomal reaction, *Limulus* sperm, biochemical and light and EM study, 289

—, HeLa and 3T3 mouse fibroblasts, association with membranes, autoradiographic and biochemical and EM study, 223

Actinlike filaments, association with pigment granules, frog retina epithelium, EM study, 705

Adenosine monophosphate, dibutyryl cyclic, effect on microtubule assembly and disassembly, Chinese hamster ovary cells, quantitative biochemical and scanning and transmission EM study, 42

Albumin, autologous, rat alveolar capillary membrane and alveolar lining material, cytochemical EM study, 503

Alga *Chlamydomonas reinhardtii*, effect of cell cycle on synthesis and turnover of ribulose biphosphate carboxylase and subunits, biochemical study, 572

— *Pelvetia fastigiata*, egg, pulse current pattern, physical study, 636

Alveolus, rat lung, autologous albumin in capillary membrane and lining material, cytochemical EM study, 503

Amphibian *Ambystoma maculatum*, embryo, cell membrane surface coat material, role in neurulation, light and EM study, 172

Ankyrin, striated rootlets of basal apparatus, bay scallop gill ciliated epithelium, biochemical and light and EM study, 408

Anthocodium, *Renilla mülleri*, bioluminescent organelle (luminelle), fluorescence and EM study, 15

Antibody-ferritin conjugates. collagen synthesis, chick embryo fibroblasts, biochemical and immunological and EM study, 340

— conjugates, two methods of preparation, biochemical study, 331

Antigens, cell surface, immunospecific attachment, hapten-sandwich labeling, scanning EM study, 311

—, histocompatibility, phenotype expression, mouse somatic cell hybrid clones, flow microfluorimetry study, 719

—, mouse lymphocytes, immunolatex spheres as visual markers of, biochemical and immunological and scanning EM study, 75

Asters and spindles, in vitro polymerization of microtubules into, surf clam eggs, light and EM study, 146

Autophagy, cellular, diurnal variation, rat kidney tubule, light and EM study, 608

B

Basal apparatus striated rootlets, bay scallop gill ciliated epithelium, biochemical and light and EM study, 408

Bioluminescence, organelle (luminelle) in anthocodium, *Renilla mülleri*, fluorescence and EM study, 15

p Bodies, chromatin substructure, rat thymus and liver, chicken erythrocytes, nuclei, X-ray diffraction and EM study, 528

C

Caerulein secretion by dermal glands, frog skin, biochemical and light and EM study, 724

Calcium storage sites, vertebrate glial cells, electron probe microanalysis and EM study, 322

Cap formation, *Entamoeba histolytica* membrane surface coat, cytochemical and freeze-fracture EM study, 538

Capillary, blood, rat diaphragm, permeability to small heme-peptides, patent transendothelial channels, biochemical and cytochemical EM study, 586

Caveolae, transverse tubular system, and plasma membrane, connections between, frog skeletal muscle, cytochemical EM study, 734

Cell cycle, *Chlamydomonas reinhardtii*, effect on synthesis and turnover of ribulose biphosphate carboxylase and subunits, biochemical study, 572

— cycle, effect on cell surface changes and Rous sarcoma-virus gene expression, chick embryo cells, biochemical and scanning EM study, 398

— cycle, Novikoff rat hepatoma cells, transport changes of nucleosides, hypoxanthine, choline, and deoxyglucose, biochemical and phase-contrast microscope study, 29

— surface markers, immunospecific attachment, hapten-sandwich labeling, scanning EM study, 311

Cells, animal, messenger RNA metabolism, involvement of untranslated sequences and mRNA-associated proteins, review article, 269

—, Balb/c and hybrid clones, phenotype expression of histocompatibility antigens, flow microfluorimetry study, 719

—, chick embryo, cell surface changes and Rous sarcoma-virus gene expression, dependence on cell cycle, biochemical and scanning EM study, 398

—, chick embryo fibroblasts, collagen biosynthesis, immunoferritin techniques, biochemical and immunological and EM study, 340

—, chick and mouse embryo, Balb/c 3T3, SV 3T3 and variants, human diploid lung, skin fibroblasts, rat liver, and monkey kidney, effect of microexu-

dates on cell growth, biochemical and cytological study, 135
Cells, Chinese hamster Don line, macromolecular synthesis and reconstruction of nuclear envelope in mitosis, autoradiographic and cytological study, 378
—, Chinese hamster ovary, microtubule assembly and disassembly, effect of dibutyryl cyclic AMP, quantitative biochemical and scanning and transmission EM study, 42
—, epidermal, insect, microtubules with 15 subunits, EM study, 242
—, epithelial, fibroblastic, Rous sarcoma virus-induced tumor, and kidney cell lines, effect of cytochalasin D, zeiosis and movement at cell surface, autoradiographic and biochemical and EM study, 644
—, glial, vertebrate, calcium-containing structures, electron probe microanalysis and EM study, 322
—, HeLa and 3T3 mouse fibroblasts, actin associated with membranes, autoradiographic and biochemical and EM study, 223
—, human fibroblasts, senescent, fusion with cells of unlimited growth potential, reinitiation of DNA synthesis, autoradiographic and cytological study, 551
—, human foreskin fibroblasts, inhibition of interferon secretion by vinblastine, cytological study, 716
—, Indian muntjac *Muntiacus muntjak*, chromosomes, locations of 18S and 28S ribosomal genes, biochemical and cytological study, 251
—, L-929, regulation of DNA replication on subchromosomal units, autoradiographic study, 89
—, liver RLC-GAI, enlargement of mitochondria by synthetic glucocorticoid, EM study, 711
—, mouse L929 and LM, externally disposed plasma membrane proteins, enzymatic iodination, biochemical and autoradiographic light and EM study, 438
—, mouse L929 and LM, externally disposed plasma membrane proteins, metabolism of iodinated polypeptides, biochemical and autoradiographic EM study, 461
—, Novikoff rat hepatoma, cell cycle and transport changes of nucleosides, hypoxanthine, choline, and deoxyglucose, biochemical and phase-contrast microscope study, 29
—, sheep and goat bone marrow, effect of erythropoietin on in vitro erythroid colony growth and hemoglobin synthesis, biochemical and cytological study, 515
Cellular autophagy, diurnal variation, rat kidney tubule, light and EM study, 608
Cellulose synthesis, pea epicotyl, effect of indoleacetic acid on β-1,4-glucan (cellulose) synthetase, biochemical and EM study, 557
Channels, transendothelial, permeability of muscle capillaries to small heme-peptides, rat diaphragm, biochemical and cytochemical EM study, 586
Chicken, embryo, retina, correlation of rhodopsin biogenesis with ultrastructural morphogenesis, biochemical and EM study, 235
Chicken, erythrocytes, rat thymus and liver, nuclei, visualization of chromatin substructure, ν bodies, X-raydiffraction and EM study, 528
—, small intestine, calcium transport, biochemical and electron probe microanalysis, 54
Choline, nucleosides, hypoxanthine, and deoxyglucose transport, effect of cell cycle, Novikoff rat hepatoma cells, biochemical and phase contrast microscope study, 29
Chromatin substructure, visualization of ν bodies, rat thymus and liver, chicken erythrocytes, nuclei, X-ray diffraction and EM study, 528
Chromosome movement, *Tilia americana* endosperm, cytological study, 159
Chromosomes, Indian muntjac, locations for 18S and 28S ribosomal genes, biochemical and cytological study, 251
—, L-929 cells, regulation of DNA replication, autoradiographic study, 89
Cilia, *Paramecium aurelia*, role of cortical orientation in control of direction of beat, cinemicrographic and scanning EM study, 98
Collagen biosynthesis, chick embryo fibroblasts, immunoferritin techniques, biochemical and immunological and EM study, 340
Cortex, *Paramecium aurelia*, role of orientation of in control of direction of ciliary beat, cinemicrographic and scanning EM study, 98
Cytochalasin D, effect on established cell lines, zeiosis and movement at cell surface, autoradiographic and biochemical and EM study, 644

D

Deoxyglucose, nucleosides, hypoxanthine, and deoxyglucose transport, effect of cell cycle, Novikoff rat hepatoma cells, biochemical and phase-contrast microscope study, 29
Deoxyribonucleic acid replication, regulation in subchromosomal units, L-929 cells, autoradiographic study, 89
— acid synthesis, meiotic, during mouse spermatogenesis, autoradiographic and biochemical and EM study, 211
— acid synthesis, senescent human fibroblasts fused to cells of unlimited growth potential, autoradiographic and cytological study, 551
Dexamethasone sodium phosphate, enlargement of mitochondria, RLC-GAI cells, EM study, 711
Diaphragm, rat, permeability of muscle capillaries to small heme-peptides, patent transendothelial channels, biochemical and cytochemical EM study, 586
Diurnal variation, cellular autophagy, rat kidney tubule, light and EM study, 608

E

Egg, *Pelvetia fastigiata*, pulse current pattern, physical study, 636
—, surf clam, in vitro polymerization of microtubules into asters and spindles, light and EM study, 146
Electron microscopy, scanning, hapten-sandwich labeling of cell surface markers, 311

Electron microscopy, two methods for preparation of ferritin-protein conjugates for, biochemical study, 331
Embryo, *Ambystoma maculatum*, cell membrane surface coat material, role in neurulation, light and EM study, 172
–, chick, retina, correlation of rhodopsin biogenesis with ultrastructural morphogenesis, biochemical and EM study, 235
Endocytic index, pinocytosis by rat yolk sac, in vitro kinetics of polyvinylpyrrolidone uptake, biochemical and light and EM study, 113
– index, pinocytosis by rat yolk sac, in vitro kinetics of protein uptake and digestion, biochemical study, 123
Endocytosis, micro-, rat peritoneal eosinophils, cytochemical EM study, 622
Endosperm, *Tilia americana*, mitosis, cytological study, 159
Enzyme, endogenous peroxidase, specific marker for estrogen-sensitive tissues, biochemical and EM study, 668
–, β-1,4-glucan (cellulose) synthetase, pea epicotyl cellulose synthesis, effect of indoleacetic acid, biochemical and EM study, 557
–, ribulose biphosphate carboxylase and subunits, effect of cell cycle on synthesis and turnover of, *Chlamydomonas reinhardtii*, biochemical study, 572
Eosinophils, rat peritoneal, microendocytosis, cytochemical EM study, 622
Epicotyl, pea, cellulose synthesis, effect of indoleacetic acid on β-1,4-glucan (cellulose) synthetase, biochemical and EM study, 557
Epidermal cells, insect, microtubules with 15 subunits, EM study, 242
Epididymis, mouse, meiotic DNA synthesis during spermatogenesis, autoradiographic and biochemical and EM study, 211
Epithelium, bay scallop gill cilia, basal apparatus striated rootlets, biochemical and light and EM study, 408
–, frog retina, association of actinlike filaments with pigment granules, EM study, 705
Erythrocytes, chicken, visualization of chromatin substructure, ν bodies, X-ray diffraction and EM study, 528
Erythropoietin, effect on in vitro erythroid colony growth and hemoglobin synthesis, sheep and goat bone marrow cells, biochemical and cytological study, 515
Estradiol-17β and estrogen antagonist CI628, effect on rat uterus, autoradiographic and biochemical and EM study, 682
Estrogen antagonist CI628 and estradiol-17β, effect on rat uterus, autoradiographic and biochemical and EM study, 682
–, estrogen antagonist, and progesterone, effect on immature, cycling, and pregnant rat uterus, scanning EM study, 692
–, tissue growth dependent on, rat uterus, cervix, vagina, ovary, hypothalamus, anterior pituitary, mammary carcinoma, endogenous peroxidase as specific marker enzyme, biochemical and EM study, 668

F

Ferritin-antibody conjugates, collagen synthesis, chick embryo fibroblasts, biochemical and immunological and EM study, 340
— conjugates, two methods of preparation, biochemical study, 331
Fibers, frog twitch muscle, size and shape of transverse tubule openings, EM study, 493
Filaments, actin, role in acrosomal reaction, *Limulus* sperm, biochemical and light and EM study, 289
–, actinlike, association with pigment granules, frog retina epithelium, EM study, 705
Frog *Rana pipiens*, liver and testes, electrophoresis of histones, biochemical study, 389
— *Rana pipiens*, retina, epithelium, association of actinlike filaments with pigment granules, EM study, 705
— *Rana pipiens*, skeletal muscle, connection between transverse tubular system, caveolae, plasma membrane, cytochemical EM study, 734
— *Rana pipiens*, spinal cord, calcium-containing structures in glial cells, electron probe microanalysis and EM study, 322
— *Rana pipiens*, twitch muscle fibers, size and shape of transverse tubule openings, EM study, 493
— *Xenopus laevis*, oocyte, nucleus, accumulation of histones and small proteins, autoradiographic and biochemical and cytological study, 421
— *Xenopus laevis*, oocyte, nucleus, protein migration, autoradiographic and biochemical study, 431
— *Xenopus laevis*, skin, caerulein secretion by dermal glands, biochemical and light and EM study, 724

G

Genes, ribosomal 18S and 28S, locations on chromosomes of Indian muntjac, biochemical and cytological study, 251
Gill, bay scallop, ciliated epithelium, basal apparatus striated rootlets, biochemical and light and EM study, 408
Glands, dermal, frog skin, caerulein secretion, biochemical and light and EM study, 724
β-1,4-Glucan (cellulose) synthetase, pea epicotyl cellulose synthesis, effect of indoleacetic acid, biochemical and EM study, 557
Glucocorticoid, dexamethasone sodium phosphate, enlargement of mitochondria, RLC-GAI cells, EM study, 711
Granules, prolactin, molecular organization, rat anterior pituitary gland, biochemical and EM study, 246
–, secretion, rabbit parotid gland, characterization of membrane and content subfractions, biochemical and EM study, 182
Growth currents, developing fucoid eggs, physical study, 636
–, erythroid colony, and hemoglobin synthesis, effect of erythropoietin, sheep and goat bone marrow cells, biochemical and cytological study, 515

Growth, estrogen-sensitive tissues, rat uterus, cervix, vagina, ovary, hypothalamus, anterior pituitary, mammary carcinoma, endogenous peroxidase as specific marker enzyme, biochemical and EM study, 668
—, mammalian cells, effect of cellular microexudates, biochemical and cytological study, 135
—, reinitiation of DNA synthesis, senescent human fibroblasts fused with HeLa or SV40-transformed cells, autoradiographic and cytological study, 551
Guinea pig, polymorphonuclear leukocytes, hydrogen peroxide in phagosomes, cytochemical EM study, 254

H

Hapten-sandwich labeling, immunospecific attachment of cell surface markers, scanning EM study, 311
Heme-peptides, small, permeability of muscle capillaries to, rat diaphragm, patent transendothelial channels, biochemical and cytochemical EM study, 586
Hemoglobin synthesis and in vitro erythroid colony growth, effect of erythropoietin, sheep and goat bone marrow cells, biochemical and cytological study, 515
Histocompatibility antigens, phenotype expression, mouse somatic cell hybrid clones, flow microfluorimetry study, 719
Histone and small proteins, accumulation by frog oocyte nucleus, autoradiographic and biochemical and cytological study, 421
Histones, frog liver and testes, electrophoresis of, biochemical study, 389
Hormone, estradiol-17β and estrogen antagonist CI628, effect on rat uterus, autoradiographic and biochemical and EM study, 682
—, estrogen, estrogen antagonist, and progesterone, effect on immature, cycling, and pregnant rat uterus, scanning EM study, 692
—, estrogen, tissue growth dependent on, rat uterus, cervix, vagina, ovary, hypothalamus, anterior pituitary, mammary carcinoma, endogenous peroxidase as specific marker enzyme, biochemical and EM study, 668
—, indoleacetic acid, effect on β-1,4-glucan (cellulose) synthetase, pea epicotyl cellulose synthesis, biochemical and EM study, 557
Horseshoe crab *Limulus polyphemus*, sperm, actin filaments in acrosomal reaction, role in motion, biochemical and light and EM study, 289
Human, cerebral white matter, calcium-containing structures in glial cells, electron probe microanalysis and EM study, 322
—, polymorphonuclear leukocytes, hydrogen peroxide in phagosomes, cytochemical EM study, 254
Hydrogen peroxide, human polymorphonuclear leukocyte phagosomes, cytochemical EM study, 254
Hypoxanthine, nucleosides, choline and deoxyglucose transport, effect of cell cycle, Novikoff rat hepatoma cells, biochemical and phase-contrast microscope study, 29

I

Immunolatex spheres, visual markers of antigens on lymphocytes, biochemical and immunological and scanning EM study, 75
Indoleacetic acid, effect on β-1,4-glucan (cellulose) synthetase, pea epicotyl cellulose synthesis, biochemical and EM study, 557
Insect, cockroach *Blattella germanica*, epidermal cells, microtubules with 15 subunits, EM study, 242
Interferon secretion, human foreskin fibroblasts, inhibition by vinblastine, cytological study, 716
Intestine, small, rat and chicken, calcium transport, biochemical and electron probe microanalysis, 54
Iodination, enzymatic, plasma membrane proteins, mouse L929 and LM cells, biochemical and autoradiographic light and EM study, 438

K

Kidney, mouse, ribosomal RNA metabolism during renal hypertrophy, biochemical study, 260
—, rat, cellular autophagy in convoluted tubules, diurnal variation, light and EM study, 608
Kinetochores, mitosis in *Polysphondylium violaceum*, EM study, 480

L

Lactoperoxidase iodination, plasma membrane proteins, mouse L929 and LM cells, biochemical and autoradiographic light and EM study, 438
Latex-antibody spheres, visual markers of antigens on lymphocytes, biochemical and immunological and scanning EM study, 75
Leukocytes, polymorphonuclear, human, hydrogen peroxide in phagosomes, cytochemical EM study, 254
—, rat peritoneal eosinophils, microendocytosis, cytochemical EM study, 622
Lipoprotein particles, synthesis and intracellular transport, rat liver, biochemical and EM study, 356
Liver, frog, electrophoresis of histones, biochemical study, 389
—, rat, synthesis and intracellular transport of lipoprotein particles, biochemical and EM study, 356
—, rat, visualization of chromatin substructure, ν bodies, X-ray diffraction and EM study, 528
Luminelle, bioluminescent organelle, *Renilla müller*i anthocodium, fluorescence and EM study, 15
Lung, rat, autologous albumin in alveolar capillary membrane and alveolar lining material, cytochemical EM study, 503
Lymphocytes, mouse, immunolatex spheres as visual markers of, biochemical and immunological and scanning EM study, 75

M

Macromolecular synthesis and reconstruction of nuclear envelope during mitosis, Chinese hamster Don cell line, autoradiographic and cytological study, 378

Meiosis, mouse spermatogenesis, DNA synthesis during, autoradiographic and biochemical and EM study, 211
Membrane, capillary, and alveolar lining material, rat lung, autologous albumin in, cytochemical EM study, 503
– and content subfractions, characterization of, rabbit parotid gland secretion granules, biochemical and EM study, 182
–, HeLa and 3T3 mouse fibroblasts, association with actin, autoradiographic and biochemical and EM study, 223
–, plasma, mouse L929 and LM cells, enzymatic iodination of proteins, biochemical and autoradiographic light and EM study, 438
–, plasma, mouse L929 and LM cells, metabolism of iodinated polypeptides, biochemical and autoradiographic EM study, 461
–, plasma, transverse tubular system, and caveolae, connections between, frog skeletal muscle, cytochemical EM study, 734
– structure and surface coat, *Entamoeba histolytica*, cap formation and microexudate, cytochemical and freeze-fracture EM study, 538
– surface coat material, *Ambystoma maculatum* embryo, role in neurulation, light and EM study, 172
– vesicles and microtubules, linkages between, *Paramecium caudatum*, EM study, 497
Microendocytosis, rat peritoneal eosinophils, cytochemical EM study, 622
Microexudate, cellular, effect on growth of mammalian cells, biochemical and cytological study, 135
–, *Entamoeba histolytica* membrane surface coat, cytochemical and freeze-fracture EM study, 538
Microsomes, rat liver, characterization of lipoprotein particles, biochemical and EM study, 356
Microtubule assembly and disassembly, effect of dibutyryl cyclic AMP, Chinese hamster ovary cells, quantitative biochemical and scanning and transmission EM study, 42
Microtubules and membrane-bounded vesicles, linkages between, *Paramecium caudatum*, EM study, 497
–, surf clam egg, in vitro polymerization into asters and spindles, light and EM study, 146
– with 15 subunits, insect epidermal cells, EM study, 242
Mitochondria, RLC-GAI cells, enlargement by synthetic glucocorticoid, EM study, 711
Mitosis, Chinese hamster Don cell line, macromolecular synthesis and reconstruction of nuclear envelope during, autoradiographic and cytological study, 378
–, slime mold *Polysphondylium violaceum*, EM study, 480
–, *Tilia americana* endosperm, cytological study, 159
Motion, *Limulus* sperm, role of actin filaments in acrosomal reaction, biochemical and light and EM study, 289
–, *Paramecium aurelia*, role of cortical orientation in control of direction of ciliary beat, cinemicrographic and scanning EM study, 98
Mouse, epididymis, meiotic DNA synthesis during spermatogenesis, autoradiographic and biochemical and EM study, 211
–, kidney, ribosomal RNA metabolism during renal hypertrophy, biochemical study, 260
–, lymphocytes, immunolatex spheres as visual markers of antigens, biochemical and immunological and scanning EM study, 75
Muscle, rat diaphragm, permeability of capillaries to small heme-peptides, patent transendothelial channels, biochemical and cytochemical EM study, 586
–, skeletal, frog, connection between transverse tubular system, caveolae, and plasma membrane, cytochemical EM study, 734
–, twitch fibers, frog, size and shape of transverse tubule openings, EM study, 493
Myelin sheath, peripheral, and node of Ranvier, rat sensory ganglia, role of trypsin in damage and repair of, light and EM study, 1

N

Neurulation, role of cell membrane surface coat during, *Ambystoma maculatum*, light and EM study, 172
Node of Ranvier and peripheral myelin sheath, rat sensory ganglia, role of trypsin in damage and repair of, light and EM study, 1
Nuclear envelope, mitosis in *Polysphondylium violaceum*, EM study, 480
– envelope reconstruction and macromolecular synthesis, mitosis in Chinese hamster Don cell line, autoradiographic and cytological study, 378
Nucleosides, hypoxanthine, choline, and deoxyglucose transport, effect of cell cycle, Novikoff rat hepatoma cells, biochemical and phase-contrast microscope study, 29
Nucleus, animal cells, precursors of messenger RNA, involvement of untranslated sequences and messenger RNA-associated proteins, review article, 269
–, frog oocyte, accumulation of histones and small proteins, autoradiographic and biochemical and cytological study, 421
–, frog oocyte, protein migration, autoradiographic and biochemical study, 431
–, rat thymus and liver, chicken erythrocytes, visualization of chromatin substructure, ν bodies, X-ray diffraction and EM study, 528

O

Oocyte, frog, nucleus, accumulation of histones and small proteins, autoradiographic and biochemical and cytological study, 421
–, frog, nucleus, protein migration, autoradiographic and biochemical study, 431
Organ culture, rat yolk sac, in vitro kinetics of polyvinylpyrrolidone uptake, biochemical and light and EM study, 113
– culture, rat yolk sac, in vitro kinetics of protein uptake and digestion, biochemical study, 123

P

Parotid gland, rabbit, secretion granules, characterization of membrane and content subfractions, biochemical and EM study, 182
Peptides, heme-, small, permeability of muscle capillaries to, rat diaphragm, patent transendothelial channels, biochemical and cytochemical EM study, 586
Peroxidase, endogenous, specific marker enzyme for estrogen-sensitive tissues, biochemical and EM study, 668
Phagosomes, human polymorphonuclear leukocytes, hydrogen peroxide in, cytochemical EM study, 254
Phenotype expression of histocompatibility antigens, mouse somatic cell hybrid clones, flow microfluorimetry study, 719
Phragmoplast formation, mitosis in *Tilia americana* endosperm, cytological study, 159
Pigment granules, frog retina epithelium, association with actinlike filaments, EM study, 705
Pinocytosis, rat yolk sac, in vitro kinetics of polyvinylpyrrolidone uptake, biochemical and light and EM study, 113
—, rat yolk sac, in vitro kinetics of protein uptake and digestion, biochemical study, 123
— gland, rat, prolactin granule organization, biochemical and EM study, 246
Plant, basswood, *Tilia americana*, mitosis in endosperm, cytological study, 159
— *Pisum sativum*, epicotyl, cellulose synthesis, effect of indoleacetic acid on β-1,4-glucan (cellulose) synthetase, biochemical and EM study, 557
Polyadenylic acid, role in messenger RNA metabolism in animal cells, review article, 269
Polypeptides, iodinated, metabolism of, plasma membrane, mouse L929 and LM cells, biochemical and autoradiographic EM study, 461
—, membrane and content subfractions, rabbit parotid gland secretion granules, biochemical and EM study, 182
Polyvinylpyrrolidone, in vitro kinetics of uptake by rat yolk sac, quantitative pinocytosis, biochemical and light and EM study, 113
Progesterone, estrogen, and estrogen antagonist, effect on immature, cycling, and pregnant rat uterus, scanning EM study, 692
Prolactin granule organization, rat anterior pituitary gland, biochemical and EM study, 246
Protein uptake and digestion, in vitro kinetics of by rat yolk sac, quantitative pinocytosis, biochemical study, 123
Protein-ferritin conjugates, two methods of preparation, biochemical study, 331
Proteins, messenger RNA-associated, and untranslated sequences, involvement in messenger RNA metabolism of animal cells, review article, 269
—, nuclear and cytoplasmic, migration into frog oocyte nucleus, autoradiographic and biochemical study, 431
—, plasma membrane, enzymatic iodination of mouse L929 and LM cells, biochemical and autoradiographic light and EM study, 438
Proteins, plasma membrane, metabolism of iodinated polypeptides, mouse L929 and LM cells, biochemical and autoradiographic EM study, 461
—, small, and histones, accumulation by frog oocyte nucleus, autoradiographic and biochemical and cytological study, 421
Protozoan *Entamoeba histolytica*, membrane structure and surface coat, cap formation and microexudates, cytochemical and freeze-fracture EM study, 538
— *Paramecium aurelia*, cilia, role of cortical orientation in control of direction of beat, cinemicrographic and scanning EM study, 98
— *Paramecium caudatum*, linkage between microtubules and membrane-bounded vesicles, EM study, 497
Pulse current pattern, developing fucoid eggs, physical study, 636

R

Rabbit, parotid gland, secretion granules, characterization of membrane and content subfractions, biochemical and EM study, 182
Radioactive label, [^{14}C]algal protein hydrolysate, rabbit parotid gland secretion granules, characterization of membrane and content subfractions, biochemical and EM study, 182
— label, [^{14}C]amino acids, actin-membrane association, 3T3 mouse fibroblasts and HeLa cells, autoradiographic and biochemical and EM study, 223
— label, [^{14}C]amino acids and [^{3}H]leucine, effect of cytochalasin D on established cell lines, zeiosis and cell surface movement, autoradiographic and biochemical and EM study, 644
— label, [^{14}C]arginine, [^{14}C]sodium bicarbonate, [^{3}H]albumin and [^{3}H]arginine, synthesis and turnover of ribulose bisphosphate carboxylase and subunits, effect of cell cycle, *Chlamydomonas reinhardtii*, biochemical study, 572
— label, [^{14}C]- or [^{3}H]leucine, effect of erythropoietin on in vitro erythroid colony growth and hemoglobin synthesis, sheep and goat bone marrow cells, biochemical and cytological study, 515
— label, [^{14}C]proline and [^{125}I]iodide, collagen synthesis, chick embryo fibroblasts, immunoferritin techniques, biochemical and immunological and EM study, 340
— label, [^{14}C]sucrose, GDP-[^{14}C]glucose, and UDP-[^{14}C]glucose, pea epicotyl cellulose synthesis, effect of indoleacetic acid on β-1,4-glucan (cellulose) synthetase, biochemical and EM study, 557
— label, [^{14}C]thymidine and [^{3}H]methionine, reinitiation of DNA synthesis in senescent human fibroblasts upon fusion with cells of unlimited growth potential, autoradiographic and cytological study, 551
— label, [^{45}Ca]calcium chloride, calcium transport by rat and chicken small intestine, biochemical and electron probe microanalysis, 54
— label, [^{3}H]arginine, [^{3}H]thymidine, and [^{3}H]water, meiotic DNA synthesis during mouse spermatogenesis, autoradiographic and biochemical and EM study, 211

Radioactive label, [^{3}H]choline, [^{3}H]deoxyglucose, [^{3}H]-hypoxanthine, [^{3}H]thymidine, and [^{3}H]uridine, effect of cell cycle on transport of nucleosides, hypoxanthine, choline, and deoxyglucose, Novikoff rat hepatoma cells, biochemical and phase-contrast microscope study, 29
– label, [^{3}H]colchicine, microtubule assembly and disassembly, effect of dibutyryl cyclic AMP, Chinese hamster ovary cells, quantitative biochemical and scanning and transmission EM study, 42
– label, [2-^{3}H]deoxyglucose, [^{3}H]mannitol, [^{3}H]-thymidine, and [^{3}H]uridine, cell surface changes and Rous sarcoma-virus gene expression, dependence on cell cycle, biochemical and scanning EM study, 398
– label, [^{3}H]glucosamine, [^{3}H]leucine, and [^{3}H]uridine, effect of cellular microexudates on growth of mammalian cells, biochemical and cytological study, 135
– label, [^{3}H]glycerol, synthesis and intracellular transport of lipoprotein particles, rat liver, biochemical and EM study, 356
– label, [^{3}H]glycine and [^{125}I]iodide, two methods for preparation of ferritin-protein conjugates, biochemical study, 331
– label, [^{3}H]glycine and [^{125}I]sodium iodide, immunolatex spheres, visual markers of antigens on lymphocytes, biochemical and immunological and scanning EM study, 75
– label, [^{3}H]lysine, [^{3}H]thymidine, and [^{3}H]uridine, macromolecular synthesis and reconstruction of nuclear envelope in mitosis, autoradiographic and cytological study, 378
– label, [^{3}H]proline and [^{35}S]methionine, protein migration into frog oocyte nucleus, autoradiographic and biochemical study, 431
– label, [^{3}H]thymidine, regulation of DNA replication on subchromosomal units, L-929 cells, autoradiographic study, 89
– label, [^{3}H]uridine, locations of 18S and 28S ribosomal genes on chromosomes, Indian muntjac, biochemical and cytological study, 251
– label, [^{125}I]iodide and [^{125}I]polyvinylpyrrolidone, pinocytosis by rat yolk sac, in vitro kinetics of protein uptake and digestion, biochemical study, 123
– label, [^{125}I]polyvinylpyrrolidone, pinocytosis by rat yolk sac, in vitro kinetics of polyvinylpyrrolidone uptake, biochemical and light and EM study, 113
– label, [^{125}I]sodium iodide, accumulation of histones and small proteins by frog oocyte nuclei, autoradiographic and biochemical and cytological study, 421
– label, [^{125}I]sodium iodide, externally disposed plasma membrane proteins, enzymatic iodination of mouse L929 and LM cells, biochemical and autoradiographic light and EM study, 438
– label, [^{125}I]sodium iodide, externally disposed plasma membrane proteins, metabolism of iodinated polypeptides, mouse L929 and LM cells, biochemical and autoradiographic EM study, 461
Radioactive label, [*methyl*-^{3}H]methionine, ribosomal RNA metabolism during renal hypertrophy, biochemical study, 260
– label, [*methyl*-^{3}H]thymidine, effect of estradiol-17β and estrogen antagonist CI628 on rat uterus, autoradiographic and biochemical and EM study, 682
Rat, anterior pituitary gland, prolactin granule organization, biochemical and EM study, 246
–, diaphragm, permeability of muscle capillaries to small heme-peptides, patent transendothelial channels, biochemical and cytochemical EM study, 586
–, kidney, cellular autophagy in convoluted tubules, diurnal variation, light and EM study, 608
–, liver, synthesis and intracellular transport of lipoprotein particles, biochemical and EM study, 356
–, lung, autologous albumin in alveolar capillary membrane and alveolar lining material, cytochemical EM study, 503
–, peritoneal eosinophils, microendocytosis, cytochemical EM study, 622
–, sensory ganglia, damage and repair of peripheral myelin sheath and node of Ranvier, role of trypsin, light and EM study, 1
–, small intestine, calcium transport, biochemical and electron probe microanalysis, 54
–, thymus and liver, chicken erythrocytes, nuclei, visualization of chromatin substructure, ν bodies, X-ray diffraction and EM study, 528
–, uterus, cervix, vagina, ovary, hypothalamus, anterior pituitary, and mammary carcinoma, growth dependence on estrogen, endogenous peroxidase as specific marker enzyme, biochemical and EM study, 668
–, uterus, effect of estradiol-17β and estrogen antagonist CI628, autoradiographic and biochemical and EM study, 682
–, uterus, immature, cycling, and pregnant, effect of estrogen, estrogen antagonists, and progesterone, scanning EM study, 692
–, yolk sac, pinocytosis, in vitro kinetics of polyvinylpyrrolidone uptake, biochemical and light and EM study, 113
–, yolk sac, pinocytosis, in vitro kinetics of protein uptake and digestion, biochemical study, 123
Retina, chick embryo, correlation of rhodopsin biogenesis with ultrastructural morphogenesis, biochemical and EM study, 235
–, frog, epithelium, association of actinlike filaments with pigment granules, EM study, 705
Rhodopsin biogenesis, correlation with ultrastructural morphogenesis, chick embryo retina, biochemical and EM study, 235
Ribonucleic acid, messenger, metabolism in animal cells, involvement of untranslated sequences and messenger RNA-associated proteins, review article, 269
– acid, ribosomal, metabolism during renal hypertrophy, biochemical study, 260
Ribosomal genes, 18S and 28S, locations on chromosomes of Indian muntjac, biochemical and cytological study, 251

Ribosomal RNA metabolism during renal hypertrophy, biochemical study, 260
Ribulose bisphosphate carboxylase and subunits, effect of cell cycle on synthesis and turnover of, *Chlamydomonas reinhardtii*, biochemical study, 572
Rootlets, striated, basal apparatus, bay scallop gill ciliated epithelium, biochemical and light and EM study, 408

S

Scallops *Aequipecten irradians*, gill, ciliated epithelium, basal apparatus striated rootlets, biochemical and light and EM study, 408
Sea pansy *Renilla müilleri*, anthocodium, bioluminescent organelle (luminelle), fluorescence and EM study, 15
Secretion granules, rabbit parotid gland, characterization of membrane and content subfractions, biochemical and EM study, 182
Skin, frog, caerulein secretion by dermal glands, biochemical and light and EM study, 724
Slime mold *Polysphondylium violaceum*, mitosis, EM study, 480
Sperm, *Limulus*, actin filaments in acrosomal reaction, role in motion, biochemical and light and EM study, 289
Spermatogenesis, mouse, meiotic DNA synthesis during, autoradiographic and biochemical and EM study, 211
Spinal cord, frog, calcium-containing structures in glial cells, electron probe microanalysis and EM study, 322
Spindle pole bodies, mitosis in *Polysphondylium violaceum*, EM study, 480
Spindles and asters, in vitro polymerization of microtubules into, surf clam eggs, light and EM study, 146
Surf clam *Spisula solidissima*, eggs, in vitro polymerization of microtubules into asters and spindles, light and EM study, 146
Surface, cell, immunospecific attachment of markers, hapten-sandwich labeling, scanning EM study, 311
—, cell, movements, and zeiosis, effect of cytochalasin D on established cell lines, autoradiographic and biochemical and EM study, 644
— changes, chick embryo cells, and Rous sarcoma virus gene expression, dependence on cell cycle, biochemical and scanning EM study, 398
— coat material, *Ambystoma maculatum* embryo cell membrane, role in neurulation, light and EM study, 172
— coat and membrane structure, *Entamoeba histolytica*, cap formation and microexudate, cytochemical and freeze-fracture EM study, 538

T

Testes, frog, electrophoresis of histones, biochemical study, 389
Thymus, rat, visualization of chromatin substructure, ν bodies, X-ray diffraction and EM study, 528
Tissue culture, chick and mouse embryo, Balb/c 3T3, SV3T3 and variants, human diploid lung, skin fibroblasts, rat liver, and monkey kidney, effect of microexudates on cell growth, biochemical and cytological study, 135
— culture, rat sensory ganglia, damage and repair of peripheral myelin sheath and node of Ranvier, role of trypsin, light and EM study, 1
Tissues, uterus, cervix, vagina, ovary, hypothalamus, anterior pituitary, and mammary carcinoma, growth dependence on estrogen, endogenous peroxidase as specific marker enzyme, biochemical and EM study, 668
Transport rates, nucleosides, hypoxanthine, choline, and deoxyglucose, effect of cell cycle, Novikoff rat hepatoma cells, biochemical and phase-contrast microscope study, 29
Trypsin, role in damage and repair of peripheral myelin sheath and node of Ranvier, rat sensory ganglia, light and EM study, 1
Tubules, convoluted, rat kidney, cellular autophagy, diurnal variation, light and EM study, 608
—, transverse, caveolae, and plasma membrane, connections between, frog skeletal muscle, cytochemical EM study, 734
—, transverse, size and shape of openings, frog twitch muscle fibers, EM study, 493
Tubulin polymerization, microtubule assembly, effect of dibutyryl cyclic AMP, Chinese hamster ovary cells, quantitative biochemical and scanning and transmission EM study, 42

U

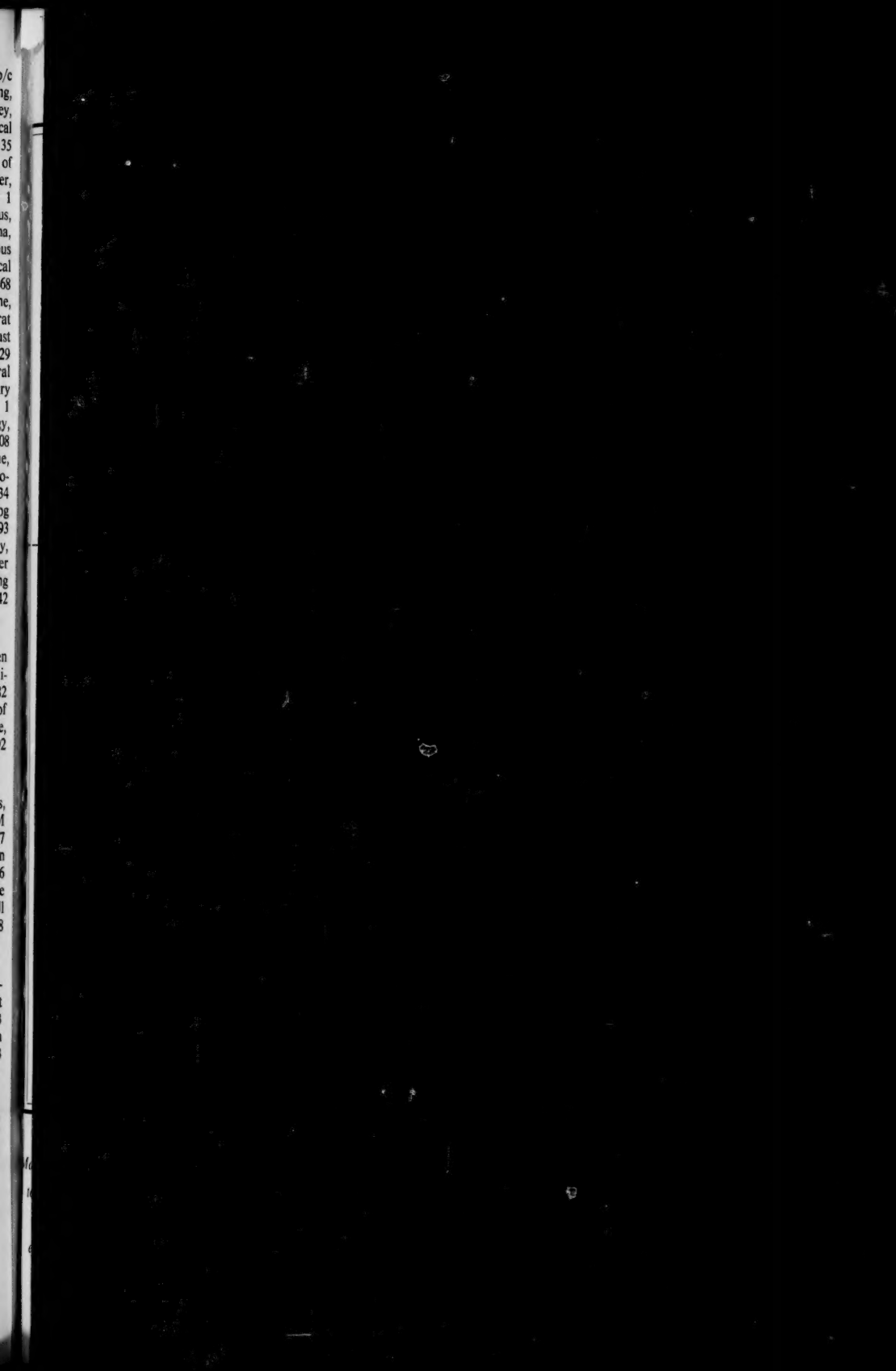
Uterus, rat, effect of estradiol-17β and estrogen antagonist CI628, autoradiographic and biochemical and EM study, 682
—, rat, immature, cycling, and pregnant, effect of estrogen, estrogen antagonists, and progesterone, scanning EM study, 692

V

Vesicles, membrane bounded, and microtubules, linkages between, *Paramecium caudatum*, EM study, 497
Vinblastine inhibition of interferon secretion, human foreskin fibroblasts, cytological study, 716
Virus, Rous sarcoma, gene expression and cell surface changes, chick embryo cells, dependence on cell cycle, biochemical and scanning EM study, 398

Y

Yolk sac, rat, pinocytosis, in vitro kinetics of polyvinylpyrrolidone uptake, biochemical and light and EM study, 113
— sac, rat, pinocytosis, in vitro kinetics of protein uptake and digestion, biochemical study, 123

Z

Zeiosis, cell surface movements, effect of cytochalasin D on established cell lines, autoradiographic and biochemical and EM study, 644